UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C: 20231

V.S

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/181,244	10/28/98	LAYSON	H 818.9

EXAMINER	
TRIEU, V	
ART UNIT	**PAPER NUMBER**
2736	4

LM02/0413

LARSON & LARSON
11199 69TH STREET NORTH
LARGO FL 33773

DATE MAILED: 04/13/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/181,244	Hoyt M. Layson, Jr.
Examiner	**Group Art Unit**
Van Trieu	2736

☒ Responsive to communication(s) filed on *Oct 28, 1998*.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *1-18* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-18* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐approved ☐disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *2*

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- *SEE OFFICE ACTION ON THE FOLLOWING PAGES* ---

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Because the FPGA does not include memory containing a schedule of rules and location constraints. However, the specification disclose a FPGA having memory being programmed for saving power to all other associated circuits, page 9, lines 9-26 and page 10, lines 1-8. While a central data base system 122 communicates to the body-tracking device 10 in order to updated schedule rules and location constraints either new of modified, page 16, lines 7-21.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-5, 7-14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hoffman et al** [US 5,742,233] in view of **Krasner** [US 5,663,734] . **Hoffman et al** disclose all the subject matters as follows:

Regarding claim 1, the claimed sealed enclosed case containing means (a small portable signaling unit 20 having water proof, Figs. 1-3, col. 5, lines 49-60, col. 6, lines 38-40, col. 8, lines 31-67 and col. 14, lines 8-10); and the main battery (rechargeable battery 120 and lithium battery 48, Figs. 3B and 5, col. 8, lines 61-63 and col. 9, lines 53-57); and the signaling device enclosed by the case (received GPS signals and alarm signals, Figs. 4 and 5); and means to replace the main battery (lithium battery 48, Fig. 3B); and circuit board enclosed by the case having attached on the circuit board, a wireless data modem and a GPS receiver (data modem 112 and GPS receiver 100, Fig. 2 and 5, col. 9, lines 43-45 and 53-54); but **Hoffman et al** do not disclose matched filtering GPS receiver. However, **Hoffman et al** teach that the signaling unit 20 includes a GPS receiver for receiving GPS signals which are send to the position buffer circuit 102 and microcontroller 106, Fig. 5, col. 9, lines 43-47. **Krasner** teaches that a GPS receiver includes a digitizer 44 coupled to the down-converter 42 and sampling the IF GPS signals at a predetermined rate to produce sampled IF GPS signals, a digital snapshot memory 46 coupled to the digitizer 44 for storing the sampled IF GPS signals, and a FPGA 48 or 49 for controlling the

addressing of the digital snapshot memory 46. The digital snapshot memory 46 captures a record corresponding to a relatively long period of time. The efficient processing of this large block of data using fast convolution methods contributes to the ability to process signals at low received levels due to poor reception. All pseudoranges for visible GPS satellites are computed using this same buffered data. The processing gain is achieved through matched filtering operation, Figs. 1A-1C and 3, col. 6, lines 29-33, 51-53, col. 8, lines 14-21, col. 12, lines 47-67, col. 13, col. 14, lines 1-56. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the GPS receiver of **Krasner** for the GPS receiver and position buffer circuit of **Hoffman et al** in order to provide improved performance relative to continuous tracking GPS receivers in situations such as urban blockage conditions **Krasner**, col. 8, lines 22-24. Since the GPS satellites are orbiting, they are moving as viewed from the GPS receiver, their position relatively to the GPS receiver and the instant in time when the GPS receiver is searching for a satellite, col. 1, lines 51-65. Thus, the GPS receiver with digital snapshot memory has a better sensitivity when the GPS signals may be obstructed.

Hoffman et al also do not disclose the field programming gate array "FPGA". However, according to the discussions of the substitution of the GPS receiver of **Krasner** for the GPS receiver of **Hoffman et al** above. In which, the GPS receiver includes a FPGA connected between the digital snapshot memory and the microprocessor and general purpose programmable DPS chip for control the addressing of the digital snapshot memory and for sending a wake up signal to the DSP, in order to performing a positioning operation.

Regarding claim 2, the claimed in contact with a central station computer containing algorithm for comparing the current location of the body-worn tracking device to a schedule of rules and location restraints to determine if a static violation has occurred (central dispatch station 80 has computer system 90 containing user database, emergency services database, map display information and unit identifier, with capability of plotting algorithms, boundary monitoring alarm features, Fig. 1, col. 5, lines 61-67, col. 6, lines 1-37 and col. 8, lines 12-30).

Regarding claim 3, the claimed battery monitoring circuit (low battery sensor 122, Fig. 5).

Regarding claim 4, **Hoffman et al** do not disclose means for implementing tamper detection are battery cover screws that actuate an alarm to a central data base if removed from contact with the case. However, **Hoffman et al** teach that a portable signaling unit 20 is operated by a rechargeable battery and can be manufactured in various configurations that could incorporate a sensor to detect if the portable signaling unit 20 was involuntarily removed from the individual and would automatically trigger an alarm signal to the central dispatch station 80, col. 8, lines 31-50.. Therefore, it would have been obvious to one of ordinary skill in the art to recognize that it is a designed or manufactured choice to have the sensor for sensing the removal of the rechargeable battery or removal of the portable signaling unit because by unauthorized to remove either one will trigger an alarm signal to the central dispatch station for alerting of the tampering

conditions, such as forceful or unauthorized removal of the remote alarm switch from the individual automatically generates an urgent alarm signal, col. 6, lines 29-33.

Regarding claim 5, the claimed means for implementing tamper detection ins a strap attached to the case which if severed actuates an alarm to a central data base (carry strap, col. 8, lines 43-50).

Regarding claim 7, **Hoffman et al** do not disclose the FPGA includes processor and memory containing a schedule of rules and location constraints. However, according to the discussions of the substitution of the GPS receiver of **Krasner** for the GPS receiver of **Hoffman et al** above, in which, the GPS receiver includes a FPGA connected between the digital snapshot memory and the microprocessor and general purpose programmable DPS chip for control the addressing of the digital snapshot memory and for sending a wake up signal to the DSP, in order to performing a positioning operation.

Regarding claim 8, all the claimed subject matters are discussed in claim 1 above, and the supervisory agency and law enforcement (central dispatch station for dispatching an emergency situation to the police, paramedics and fire department, col. 1, lines 13-23 and col. 8, lines 12-25).

Regarding claim 9, **Hoffman et al** do not disclose the backup battery to provide power to the circuit board if the main battery is discharged or during replacement. However, **Hoffman et al**

teach that a portable signaling unit 20 includes a chargeable battery to be charged by a drop-in batter charger 36, Figs. 2 and 5, col. 8, lines 31-43. **Krasner** teaches that a GPS mobile unit includes power regulators 77 which is coupled to receive power from batteries 81 as well as an optional solar cells 79 which provides power to the GPS mobile unit in addition to recharging the batteries 81, Fig. 1C, col. 9, lines 25-37. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the solar cells of **Krasner** for the battery charger of **Hoffman et al** in order to provide dual functions of recharging the battery and to backup power to the portable signal unit when the chargeable battery is discharged.

Regarding claim 10, the claimed wireless data modem to actively transmit the location of the body-worn device at current health and status frequency intervals (the portable signaling unit 20 including a data modem 112 is worn by an individual 50 being monitored. The portable signal unit 20 transmits signals to the central patching station 80 at a predetermined intervals to alert emergency personnel of a health trauma of monitored person, Fig. 5, col. 5, lines 28-35, col. 6, lines 25-28 and col. 13, lines 34-36).

Regarding claim 11, the claimed wireless data modem to actively transmit the accumulated location movement history of the body-worn device at predetermined intervals (the portable signaling unit 20 including a data modem 112 is worn by an individual 50 being monitored. The portable signal unit 20 transmits signals from data modem 112 to the central patching station 80 at

a predetermined intervals until the connection is terminated by a dispatch operator 82, wherein the data modem signals contains accumulations of the GPS signals indicating of the movement of monitored person. The central dispatch station 80 includes data modems 86 and a computer system 90 for mapping display information received from the portable signaling unit 20, storing and retrieving historical data, Fig. 5, col. 5, lines 28-35, col. 8, lines 12-30 and col. 13, lines 34-36).

Regarding claim 12, all the claimed subject matters are discussed in claim 1 above.

Regarding claim 13, the claimed central station computer containing algorithm for comparing the current location of the body-worn tracking device to a schedule of rules and location restraints to determine if a static violation has occurred (central dispatch station 80 has computer system 90 containing user database, emergency services database, map display information and unit identifier, with capability of plotting algorithms, boundary monitoring alarm features, Fig. 1, col. 5, lines 61-67, col. 6, lines 1-37 and col. 8, lines 12-30).

Regarding claim 14, the claimed dynamic rule violation has occurred (col. 4, lines 46-56 and col. 6, lines 24-33).

Regarding claim 16, the claimed additional attached a battery monitoring circuit (low battery sensor 122, Fig. 5).

Regarding claim 17, the claimed FPGA comprising multiple integrate circuits for power saving is met by the discussions between **Hoffman et al** and **Krasner** in claim 1 above.

Regarding claim 18, the claimed passive tracking mode for reduced wireless communications and power savings is met by the FPGA for wake up the DSP to provide power to other circuits in order to save and reduce power consumption, as discussed between **Hoffman et al** and **Krasner** in claim 1 above.

5. Claims 6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hoffman et al** and **Krasner** as applied to claim 1 above, and further in view of **Revell et al** [US 5,838,237] . **Hoffman et al** disclose all the subject matters as follows:

Regarding claims 6 and 15, the claimed signaling device is a low profile vibrator. However, **Hoffman et al** teach that a portable signaling unit 20 includes a GPS receiver 100, a cellular telephone antenna 26 and a speaker microphone element 32 gives the central dispatch operator 82 the option to conduct two-way voice communications with the individual in distress, Figs. 1, 2 and 5, col. 8, lines 31-41 and col. 9, lines 39-53. **Revell et al** teach that a self contained personal alarm device 10 is capable of signaling its location to a remote site such as security station 62.

The device 10 includes a cellular transceiver 304 for receiving GPS signals and a 202 and a vibrator 310 for assuring the user that the device 10 has transmitted an emergency message, Figs. 1, 3 and 4, abstract, col. 5, lines 22-30 and col. 6, lines 40-44. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the vibrator of **Revell et al** to the portable signaling unit of **Hoffman et al** and **Krasner** so that the monitored person/individual assures of sending an alarm signal to the remote location for help. Thus, it provides a higher reliability of the portable personal alarm system, to minimize of the incident and to save life.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Krasner discloses a positioning sensor receiving and stored a predetermined record length of positioning signals while in a fixed position located. The positioning sensor includes a GPS snapshot receiver, a FPGA, DPS circuit and a battery. [US 5,831,574] and [5,884,214]

Kawasaki discloses a signal acquisition method for a GPS receiver including a matched filter for eliminating the necessary of clock circuit for keeping the current time and also of a backup battery for a memory. [US 5,737,531]

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner **Van Trieu** whose telephone number is (703) 308-5220. The examiner can normally be reached on Mon-Fri from 7:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. **Jeffery Hofsass**, can be reached on (703) 305-4717. The office facsimile number is (703) 305-3988.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)305-4750, Mon-Fri, 8:30 am to 5:00 pm.

JEFFERY A. HOFSASS
SUPERVISORY PATENT EXAMINER
GROUP 2700

Examiner: Van Trieu

Date: April 8, 1999